

## Claims

What is claimed is:

- [c1] A method of testing a graphical user interface, comprising:
  - selecting a widget of the graphical user interface;
  - associating an access mode with the widget;
  - generating a mode-specific input message based on the widget and the access mode;
  - sending the mode-specific input message to the graphical user interface;
  - detecting a mode-specific response from the graphical user interface using a detection tool; and
  - evaluating the graphical user interface based on the mode-specific response.
- [c2] The method of claim 1, wherein selecting the widget of the graphical user interface occurs independently of associating the access mode with the widget.
- [c3] The method of claim 1, wherein selecting the widget comprises:
  - creating a simulated user action associated with the widget; and
  - reading the simulated user action from a test suite.
- [c4] The method of claim 1, wherein associating the access mode is random.
- [c5] The method of claim 1, wherein the detection tool comprises a widget hierarchy detection tool.
- [c6] The method of claim 1, wherein the detection tool comprises a bitmap detection tool.

- [c7] The method of claim 1, wherein generating the mode-specific input message comprises:
  - detecting the access mode;
  - detecting the widget;
  - selecting a mode-specific library message using the access mode and the widget;
  - modifying the mode-specific library message into a mode-specific input message;
  - and
  - sending the mode-specific input message to the graphical user interface.
- [c8] The method of claim 7, further comprising:
  - storing the mode-specific library message in a tabular data structure.
- [c9] The method of claim 7, further comprising
  - storing the mode-specific library message using a class hierarchy.
- [c10] The method of claim 1, wherein evaluating the graphical user interface comprises comparing the mode-specific response to a proper mode-specific response.
- [c11] The method of claim 10, wherein the proper mode-specific response is stored in a reference file.
- [c12] The method of claim 1, further comprising:
  - generating an output based on evaluating the graphical user interface.
- [c13] The method of claim 12, further comprising:
  - displaying the output on a display device.
- [c14] The method of claim 12, further comprising:
  - storing the output on a computer readable medium.
- [c15] The method of claim 1, further comprising:
  - associating an alternate user action with the widget.

- [c16] A method of testing a graphical user interface, comprising:
- selecting a widget of the graphical user interface;
  - associating an access mode with the widget;
  - generating a mode-specific input message based on the widget and the access mode;
  - sending the mode-specific input message to the graphical user interface;
  - detecting a mode-specific response from the graphical user interface using a detection tool;
  - evaluating the graphical user interface based on the mode-specific response;
  - generating an output based on evaluating the graphical user interface; and
  - associating an alternate user action with the widget.
- [c17] A computer system for testing a graphical user interface, comprising:
- a processor;
  - a memory;
  - a storage device;
  - a display device; and
  - software instructions stored in the memory for enabling the computer system under the control of the processor, to perform:
    - selecting a widget of the graphical user interface;
    - associating an access mode with the widget;
    - generating a mode-specific input message based on the widget and the access mode;
    - sending the mode-specific input message to the graphical user interface;
    - detecting a mode-specific response from the graphical user interface using a detection tool; and
    - evaluating the graphical user interface based on the mode-specific response.

- [c18] A computer system for testing a graphical user interface, comprising:
- a processor;
  - a memory;
  - a storage device;
  - a display device; and
- software instructions stored in the memory for enabling the computer system under the control of the processor, to perform:
- selecting a widget of the graphical user interface;
  - associating an access mode with the widget;
  - generating a mode-specific input message based on the widget and the access mode;
  - sending the mode-specific input message to the graphical user interface;
  - detecting a mode-specific response from the graphical user interface using a detection tool; and
  - evaluating the graphical user interface based on the mode-specific response.
  - generating an output to the display device based on evaluating the graphical user interface; and
  - associating an alternate user action with the widget.

- [c19] A storage medium for storing a mode-specific library message, comprising:
- a plurality of rows associated with a widget; and
  - a plurality of columns associated with an access mode.
- [c20] The storage medium of claim 19, wherein a combination of the access mode and the widget enables a table lookup for a mode-specific library message.
- [c21] An apparatus for testing a graphical user interface, comprising:
- means for selecting a widget of the graphical user interface;
  - means for associating an access mode with the widget;

means for generating a mode-specific input message based on the widget and the access mode;

means for sending the mode-specific input message to the graphical user interface;

means for detecting a mode-specific response from the graphical user interface using a detection tool;

means for evaluating the graphical user interface based on the mode-specific response;

means for generating an output based on evaluating the graphical user interface; and

means for associating an alternate user action with the widget.